

IN THE CLAIMS:

Claim 1 (Currently Amended) A tool set for implanting a spinal rod in a patient; said tool set comprising:

- a) a pair of guide tools;
- b) each of said guide tool being non integral with and adapted to be selectively and removably joinably attached at a lower end thereof to a respective spinal implant bone screw;
- c) each of said guide tools including a longitudinal and guide channel with a central axis extending upwardly from said lower end thereof; each of said channels being sized and shaped to be adapted to receive the rod laterally positioned with respect to the axes of the channels for operably guiding the rod from a position exterior of the bone screws toward and into respective bone screws;
- d) each of said guide tools have a helically wound first guide and advancement structure located near a bottom thereof;
- e) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating structure of a bone screw closure top; and
- f) said first guide and advancement structure also being

adapted to be aligned during joining removable attachment of the tool with a respective bone screw with a second guide and advancement structure on such a respective bone screw so as to continue said helical pathway when a respective guide tool is joined with such a respective bone screw; each guide tool being elongate and being sized and shaped to extend outside the patient when the guide tool is attached to a respective bone screw and so as to be adapted to transfer the closure top between a respective guide tool and a respective bone screw upon rotation of the closure top.

Claim 2 (Currently Amended) An intermediate guide tool for use with a separate spinal implant bone screw; said tool including:

- a) lower attachment structure adapted for removable attachment to a respective bone screw;
- b) a longitudinal and upwardly extending pass through slot extending from a bottom thereof upward and being adapted to receive therethrough and guide the rod from a position exterior toward and into a bone screw attached to said intermediate guide tool;
- c) a helically wound first guide and advancement structure located near a bottom of said intermediate guide tool;

- d) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating structure of a bone screw closure top; and
- e) said first guide and advancement structure also being adapted to be aligned with a second guide and advancement structure on a bone screw during removable attachment of a tool to a respective bone screw so as to continue said helical pathway when said guide tool is attached to a bone screw; each guide tool being elongate and being sized and shaped to extend outside the patient when the guide tool is attached to a respective bone screw and so as to be adapted to transfer the closure top between said guide tool and the non integral bone screw upon rotation of the closure top with the tool being removable from the screw subsequent to placement of the closure within the screw.

Claim 3 (Currently Amended) A vertebral support rod implantation kit adapted for use with a plurality of vertebra including:

- a) a plurality of polyaxial bone screws with each bone screw being adapted for implantation in one vertebra; each of said bone screws having a mating attachment

structure;

- b) an elongate rod sized and shaped to extend between a pair of end bone screws of said plurality of bone screws;
- c) a pair of end guide tools separate from said bone screws;
- d) each of said end guide tools being non integral relative to a bone screw and including an end guide tool attachment structure at a lower end thereof that operably and removably connects with said bone screw mating attachment structure of a respective bone screw;
- e) each of said end guide tools including a longitudinal guide channel extending upwardly from near said lower end thereof; each of said channels being sized and shaped to slidingly receive opposite ends of the rod at a location spaced from the bone screw and operably guiding the rod ends toward and into respective bone screws;
- f) each of said end guide tools have a first helically wound guide and advancement structure located near a bottom thereof;
- g) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating guide and advancement structure of a

bone screw closure top; and

h) said first guide and advancement structure also being operably alignable with a second guide and advancement structure located on a respective bone screw, when one of the tools is removably attached to a respective bone screw, so as to continue said helical pathway ~~when a respective guide tool is selectively joined to a respective bone screw and; each guide tool being elongate and being sized and shaped to extend outside the patient when the guide tool is attached to a respective bone screw~~ so as to be adapted to transfer the closure top between a respective guide tool and the bone screw upon rotation of the closure top with the tools being removable from the bone screws subsequent to placement of closures in respective bone screws.

Claim 4 (Currently Amended) A vertebral support rod implantation kit adapted for use with a plurality of vertebra including:

a) a plurality of polyaxial bone screws with each bone screw being adapted for implantation in one vertebra; each of said bone screws having a mating attachment structure;

b) an elongate rod sized and shaped to extend between a pair of end bone screws of said plurality of bone

screws;

- c) a pair of end guide tools independent of but selectively joinable with a respective one of said bone screws during assembly of the bone screws and rod and then being removable from the bone screws;
- d) each of said end guide tools including an end guide tool attachment structure at a lower end thereof that is non integral with respect to one of said bone screws but that is operably and removably joinable with said bone screw mating attachment structure of a respective bone screw;
- e) each of said end guide tools including a longitudinal guide channel extending upwardly from near said lower end thereof; each of said channels being sized and shaped to slidingly receive opposite ends of the rod for operably guiding the rod ends toward respective bone screws;
- f) at least one intermediate guide tool having an intermediate guide tool attachment structure that operably and removably connects with said mating attachment structure of a respective bone screw;
- g) each of said intermediate tools including a longitudinal pass through slot extending from the bottom thereof upward and operably receiving

therethrough and guiding intermediate locations along the rod to a respective bone screw attached to the intermediate guide tool; each of the intermediate tools being elongate and being sized and shaped to extend outside the patient when removably attached to a respective bone screw;

- h) each of said end and intermediate guide tools have a first helically wound guide and advancement structure located near a bottom thereof;
- i) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating guide and advancement structure of a bone screw closure top; and
- j) said first guide and advancement structure also being operably alignable with a second guide and advancement structure located on a respective bone screw when the tool is selectively joined thereto attached to a respective bone screw so as to continue said helical pathway into the respective bone screw when a respective guide tool is attached to a respective bone screw and such that the mating guide and advancement structure of the closure top transfers from the first guide and advancement structure of the respective tool to the second guide and advancement structures of the

bone screw during rotation of the closure top to transfer the closure top from a respective guide tool and the bone screw.

Claim 5 (Original) The kit according to Claim 3 including:

- a) the closure top having the mating guide and advancement structure thereon.

Claim 6 (Currently Amended) In a guide tool for seating a rod in a spinal implant bone screw and in combination with the bone screw; the improvement comprising:

- a) said guide tool being non integral with said bone screw and being selectively operably attachable connectable to said bone screw; said guide tool having a lower first guide and advancement structure; said tool being elongate and extending exteriorly of the patient when attached to the bone screw;
- b) said bone screw having upwardly extending arms forming a rod receiving channel therein and having a second guide and advancement structure;
- c) said first and second guide and advancement structures being positioned and aligned when said guide tool is attached connected to said bone screw so as to form a continuous helically wound path to convey a closure

from the tool to the bone screw with the guide tool being removable from the bone screw subsequent to the closure being placed in the bone screw.

Claim 7 (Previously presented) The combination of Claim 6 including:

a) a closure top for closing said rod receiving channel between said arms and having thereon a helically wound mating guide and advancement structure that is operably received along said helically wound path upon rotation.

Claim 8 (Previously presented) The combination according to Claim 7 wherein:

a) said closure top mating guide and advancement structure and said bone screw second guide and advancement structure include interlocking members so as to be interlocking upon being mated.

Claim 9 (Previously presented) The combination according to Claim 8 wherein:

a) said first guide and advancement structure has a square thread.